

## CLAIMS

1 1. A cross media error protection system for multimedia data having a plurality of media  
2 streams of different type, the system comprising:

3 a packaging system for packaging the multimedia data into discrete packets,  
4 wherein each packet includes a plurality of fields, and wherein data segments from each  
5 of the media streams are placed into different ones of the plurality of fields; and

6 an insertion system for inserting error protection data into one of the plurality of  
7 fields in each packet.

1 2. The cross media error protection system of claim 1, wherein a size of each of the  
2 plurality of fields is proportional to a size of each of the plurality of media streams.

1 3. The cross media error protection system of claim 1, wherein a size of each of the  
2 plurality of fields is set at predetermined proportions.

1 4. The cross media error protection system of claim 1, wherein the plurality of media  
2 streams are selected from the group consisting of audio, video, graphics, and text.

1 5. The cross media error protection system of claim 1, further comprising a decoder for  
2 decoding the discrete packets of multimedia data.

1 6. An encoder for packaging multimedia data having a first and a second type of media  
2 stream, comprising:  
3 means for packaging the multimedia data into discrete packets, wherein each  
4 packet includes a first field for holding a segment of the first type of media, a second  
5 field for hold a segment of the second type of media stream, and a third field for holding  
6 error protection data;  
7 wherein the sizes of the first and second field are proportional to the sizes of the  
8 first and second media stream.

1 7. The encoder of claim 6, wherein the first and second type of media streams are  
2 selected from the group consisting of audio, video, text, and graphics.

1 8. A decoder for unpackaging multimedia data having a first and a second media stream  
2 of different type, the decoder comprising:  
3 means for reading multimedia data from discrete packets, wherein each packet  
4 includes a first field having a segment from the first media stream, a second field having  
5 a segment from the second media stream, and a third field having error protection data;  
6 wherein the sizes of the first and second field are proportional to the sizes of the  
7 first and second media stream.

1 9. The decoder of claim 8, wherein the first and second type of media streams are  
2 selected from the group consisting of audio, video, text, and graphics.

1 10. A method for providing cross media error protection for multimedia data, the method  
2 comprising:  
3 receiving multimedia data having a plurality of media streams, each of a different  
4 type;  
5 determining a size of each media stream;  
6 packaging the multimedia data into a plurality of discrete packets, wherein each  
7 discrete packet includes a data segment from each of the media streams, and wherein a  
8 size of each packet is proportional to the size of each media stream; and  
9 inserting error protection data into each packet.

1 11. The method of claim 10, wherein each of the discrete packets have a same size.

1 12. The method of claim 10, comprising the further step of transmitting the discrete  
2 packets.

1 13. The method of claim 12, comprising the further step of decoding the discrete packets  
2 back into the plurality of media streams.

- 1 14. A program product stored on a recordable media for providing cross media error  
2 protection for multimedia data, the program product comprising:  
3 program code configured to receive multimedia data having a plurality of media  
4 streams, each of a different type;  
5 program code configured to determine a size of each media stream;  
6 program code configured to package the multimedia data into a plurality of  
7 discrete packets, wherein each discrete packet includes a data segment from each of the  
8 media streams, and wherein a size of each packet is proportional to the size of each media  
9 stream; and  
10 program code configured to insert error protection data into each packet.
- 1 15. The program product of claim 14, where the size of each media stream is determined  
2 over a predetermined interval of time.
- 1 16. The program product of claim 14, where the size of each media stream is estimated.